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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/049,259	04/23/2002	George R. Newkome	0152.00427	9419

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EXAMINER

SHIBUYA, MARK LANCE

ART UNIT	PAPER NUMBER
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1639

DATE MAILED: 08/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/049,259

Applicant(s)

NEWKOME, GEORGE R.

Examiner

Mark L. Shibuya

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-22 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

1. Claims 1-22 are pending.

Election/Restrictions

2. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-3, drawn to a compound of the formula of claim 1 and methods of making the compound of claim 1.

Group II, claim(s) 4 and 5, drawn to a method of making dendrimer frameworks.

Group III, claim(s) 6, drawn to a monomer of the formula of claim 6.

Group IV, claim(s) 7 and 8, drawn to a dendrimer including a single ligating moiety bound to a surface of each quadrant of said dendrimer.

Group V, claim(s) 9, drawn to a dendrimer nanocrystallite.

Group VI, claim(s) 10-16, drawn to a method of making metallo-based (macro)molecules including the steps of selecting bipyridal- or terpyridal-based ligands, combining monomers with connecting metals and self assembling macrocycles wherein the monomers are interconnected by the metals.

Group VII, claim(s) 17-22, drawn to a compound of a fractal-like, planar organometallic array.

The inventions listed as Groups I-VII do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

There does not appear to be a technical feature linking Groups I and II, because the compound of claim 1, made by reacting monomethylated glycol with a nitrotrichloride and producing nitrotris (*triethylene glycol*), reducing the product to

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a corresponding amine and treating the amine with phosgene to produce an isocyanate, does not appear in the method of Group II, comprising reacting *triethylene glycol* separately with ethyl diazoacetate and benzyl chloride to yield an ester and benzyl ester, converting a free hydroxyl of the ester to an amine, coupling the amine with nitritris and subsequently reducing the nitro group to form an aminotriester, forming a dendrimer core by reacting triacid with the amine and performing ester hydrolysis of the core followed by coupling of a monomer to yield a first generation dendrimer.

Furthermore, Hult et al. (US 5,418,301) teach dendrimers, synthesis of dendrimers and at col. line 7, the use of triethylene glycol in dendrimer synthesis so that there are no special technical feature linking Groups I and II. Likewise, there is no special technical feature linking the dendrimer claimed in Group IV, drawn to a dendrimer including a single ligating moiety bound to a surface of each quadrant or the dendrimer of Group V.

Also, the monomer of Group III is of a molecular structure not recited in the other groups so that there is no technical feature linking Group III to Groups I, II, IV-VII.

The publication of Newkome et al., Chem. Commun. 1999, 27-28, (IDS filed 12/12/2002) teaches a method of making metallo-based (macro)molecules comprising the use of terpyridal-based ligands combined with monomers through a terpyridine ruthenium(II) complex. Therefore there is no special technical feature linking Group VI and Group VII, drawn to a compound of a fractal-like, planar organometallic array (see Scheme 4 at p. 27 of the instant publication of Newkome et al.). Similarly, there is no special technical feature linking Groups VI and VII and the inventions of Groups I-V.

3. This application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

The species are as follows:

Metals selected from the group consisting of Cu, Fe, Ru, Os, Zn, Co, Ni, Mn, Pd, Pt, Rh, Re, W, Ir, Au and Ag, as recited in claim 22.

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Applicant is required, in reply to this action, to elect a single species to which the claims shall be restricted if no generic claim is finally held to be allowable. The reply must also identify the claims readable on the elected species, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered non-responsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

The claims are deemed to correspond to the species listed above in the following manner:

The metals provide connections between building blocks of a compound of a fractal-like, planar organometallic array.

The following claim(s) are generic: 17, 18, 21 and 22.

The species listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, the species lack the same or corresponding special technical features for the following reasons:

The reference of Newkome et al., Chem. Commun. 1999, 27-28, (IDS filed 12/12/2002) teaches a method of making metallo-based (macro)molecules comprising the use of terpyridal-based ligands combined with monomers through a terpyridine ruthenium(II) complex. In said reference of Newkome et al., the metal connecting building blocks of the dendrimers is Ru.

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4. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark L. Shibuya whose telephone number is (571) 272-0806. The examiner can normally be reached on M-F, 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Wang can be reached on (571) 272-0811. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


PADMAASHRI PONNALURI
PRIMARY EXAMINER

Mark L. Shibuya
Examiner
Art Unit 1639

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